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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/467,721	12/20/1999	KENDYL A. ROMAN		2729

7590 11/29/2005

KENDYL A ROMAN
730 BANTRY COURT
SUNNYVALE, CA 940873402

EXAMINER	
AN, SHAWN S	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/467,721	ROMAN, KENDYL A.	
	Examiner	Art Unit	
	Shawn S. An	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *1-10 and 16-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/12/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Remarks

1. Applicant's arguments filed 9/16/05 with respect to claims 11-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 11-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al (6,058,215) in view of Brusewitz et al (6,384,862 B1) and McVeigh et al (6,574,278 B1).

Regarding claim 11, Schwartz et al discloses a machine for compressing video frames, comprising:

a video digitizer (col. 5, lines 5-8) for digitizing a frame from the video frames;

a video memory for receiving a plurality of pixels (col. 5, lines 3-5);

an encoding circuit (Fig. 1B) for counting repeated instances of a pixel value (col. 5, lines 20-27) comprising sub-sampling from each pixel (121) when scanning the plurality of pixels and outputting a series of encoded data comprising at least run-length (run) field, known as run-length encoding (124); and

a memory for storing encoded data and an input/output devices (Fig. 1B, channel/storage).

Note: conventionally, run-length encoding (RLE) consists of string of bits as a number indicating the length of a series of zeroes (run-length field), followed by a non-zero element (data field), and repeats 'til end.

Schwartz et al does not specifically disclose *a number of pixel bits sub-sampled from each pixel*, and *outputting a series of encoded data comprising a combined run-length field and a data field*.

However, Brusewitz et al teaches a subsampler (Fig. 1, 18) for *counting repeated instances of a pixel value comprising a number of pixel bits sub-sampled from each pixel when scanning the plurality of pixels* (col. 1, lines 41-49), and a control unit controlling the pixel conversion in the subsampler (18) (col. 2, lines 17-28).

Furthermore, McVeigh et al teaches subsampling block of image data (Fig. 6, 604), and an entropy encoding process (Fig. 5, 514) comprising outputting *a series of encoded data comprising a combined run-length field* (runs of zeroes) *and a data field* (non-zero value), known as run-length encoding (col. 7, lines 44-59) for fast, simple, and a most efficient way to encode image data.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a machine for compressing video frames as taught by Schwartz et al to incorporate the well known concepts as taught by Brusewitz et al (6,384,862 B1) and McVeigh et al for sub-sampling pixel bits from each pixel when scanning the plurality of pixels, and outputting a series of encoded data comprising a combined run-length field and a data field so as to provide a rapid, simple, and inexpensive substantially lossless encoding scheme, thereby saving manufacturing/operating costs and time associated with the typical encoding scheme.

Regarding claims 14-15, Schwartz et al discloses the input/output device being a storage medium and a communications transmission channel (Fig. 1B, channel/storage).

Regarding claim 12, the Examiner takes official notice that a pixel has an inherent value as in bits per pixel. Therefore, it would have been considered an obvious choice to a person of ordinary skill in the relevant art to select *one* of a set of 4, 8, 16, and/or 24 bits as the number of pixel bits to be subsampled from each pixel for a fast compression of pixel bits/data as desired by a designer/operator.

Furthermore, an inherent feature of the subsampling (reducing, downsizing) process is that a number of pixel bits sub-sampled is *always less* than the number of

bits of the pixel being sub-sampled, by virtue of reducing/downsizing the original pixel value/bits.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al, Brusewitz et al, and Bobick as applied to claim 11 above, and further in view of Frederiksen (4,743,959).

Regarding claim 13, the combination of Schwartz et al, Brusewitz et al, and Bobick does not specifically disclose the pixel bits being extracted from the most significant bits of each color component.

However, Frederiksen teaches the pixel bits being extracted from the most significant bits of each color component (col. 7, lines 58-62) for filtering out noises which could happen in a low ordered bits.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a machine for compressing video frames as taught by Schwartz et al to incorporate the well known concept of the pixel bits being extracted from the most significant bits of each color component as taught by Frederiksen for filtering out noises which could happen in a low ordered bits.

Conclusion

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S An* whose telephone number is 571-272-7324.

7. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

SHAWN AN
PRIMARY EXAMINER

11/26/05